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REMARKS

Claims 22-44 have been cancelled and new claims 45-68 have been added to the application. Claims 45 and 57 are in independent form.

First, the Examiner has indicated that the information disclosure statement filed on 1/17/2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent. Applicant will submit a supplemental information disclosure statement include a copy of each of the following references: DE 19738609; DE 4410752; DE 4405496; DE 2745666; and AT 2468.

Second, the Examiner has also indicated that the oath or declaration is defective under 37 CFR 1.67(a) because non-initialed and/or non-dated alterations have been made to the oath or declaration and it was not executed in accordance with 37 CFR 1.66 and 1.68 by acknowledging the filing of the PCT application in Europe in the body of the oath identified by application number and filing date. Applicant will also submit a new properly executed and identified oath or declaration in due course.

Third, the drawings stand objected to under 37 CFR 1.83(a) because the drawings must show the vehicle power supply as recited in claim 23. Claim 23 has been cancelled and the new independent claim does not recite the vehicle power supply as a claimed element but only as description of the preamble. Further, the drawings stand objected to under 37 CFR 1.84(p)(5) because the references 21 and 22 as shown in Figure 3 allegedly are not mentioned in the specification. The reference numeral 21 is mentioned in the specification on page 7, line 23 and reference numeral 22 has been added to the specification on page 7, line 20 in association with the dc voltage.

The specification stands objected to for various informalities, grammatical and idiomatic errors. Applicant believes each of said errors has been corrected by way of the above amendments to the specification. Additionally, the Examiner has asked what "SMD" means as recited on page 6, line 18. SMD technology stands for surface mount device which is a device which mounts onto a chip to reduce the size of the electronics. This is technology known to one having ordinary skill in this art.

Claims 24-44 stand rejected under 35 USC 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 23-44 also stand rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In reply, Applicant has cancelled claims 23-44 and submits herewith new claims 45-68. Claim 45 is in independent form and sets forth a rear vision system suitable for use in a vehicle, the vehicle being equipped with a vehicle power supply, wherein the vehicle rear vision system comprises: a rearview mirror unit having an electrochromic mirror, the electrochromic mirror having a front and a rear; a resistive heating element disposed to the rear of the electrochromic mirror and in thermal contact therewith, said resistive heating element in series with the electrochromic mirror, with a vehicle voltage from the vehicle power supply being applied across the series connection of the heating element and the electrochromic mirror; and a control device operatively connected with the electrochromic mirror applying a control voltage that is less than the vehicle voltage to the electrochromic mirror and electrically controlling reflection properties thereof, the application of the control voltage to the electrochromic mirror causing an electrical current to flow through the heating element, heating the electrochromic mirror.

Claim 57 is also in independent form and sets forth: A rear vision system suitable for use in a vehicle, the vehicle being equipped with a vehicle power supply, said vehicle rear vision system comprising a rearview mirror unit having an accessory, a resistive heating element in series with said accessory, and with a vehicle voltage from the vehicle power supply being applied across said series connection of said heating element and said accessory; and a control device operatively connected with said accessory applying a control voltage that is less than the vehicle voltage to said accessory and electrically controlling a property thereof, said application of said control voltage to said accessory causing an electrical current to flow through said heating element and through said accessory whereby heat is dissipated by said heating element, and wherein said control voltage comprises a voltage in the range of zero volts to 2.5 volts and wherein said vehicle voltage is in the range of 5 volts to 24 volts.

Applicant believes that the new claims 45-68 overcome and render the 35 CFR 112 objections as moot.

Claim 23 stands rejected under 35 USC 102(b) as being anticipated by O'Farrell (U.S. Patent No. 5,151,824) as well as Lynam et al. (U.S. Patent No. 5,808,777). Each of these cited patents disclose a rear vision system comprising at least one exterior mirror made by electro-optic/electrochromic material. The mirror comprises a heating system of thin aluminum foil and the operation of the mirror and the heating system is made via the power supplied from the power supply of the vehicle via control circuits.

However, none of the cited patents teach or suggest the invention as set forth in the new claims.

Attached hereto is a marked up version of the changes made to the specification and

claims by the current amendment for the purpose of clarifying the invention.

Accordingly, it is believed that the application is in condition for more favorable consideration and allowance.

Respectfully submitted,

Robin W. Asher
Registration No. 41,590

Clark Hill PLC
500 Woodward Ave., Suite 3500
Detroit, MI 48226
(313) 965-8665

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The paragraph beginning on page 1, line 7 has been amended as follows:

Vehicle rear vision systems are known which have at least one rearview mirror unit provided with an electrochromic mirror, control device and a vehicle power supply device, the control device being connected for its power supply with the vehicle power supply device and with the electrochromic mirror in order to control the reflection properties of the mirror in response to a control voltage. Triggering of the electrochromic mirror in relation to its transmission or reflection properties comes about through a dc voltage that may be adjusted in level according to light sensors. The triggering voltage varies in a range between 0V and approximately 1.2V. The dcvoltage is generated from the control device whose essential components are generally located in the housing of the rearview mirror located in the interior of the vehicle [, depending on the amount of glare]. As a general rule, both the interior mirror and rearview mirrors located on the exterior of the vehicle (exterior mirrors) are provided with electrochromic mirrors; generally low control voltage is used for the uniform actuation of the interior mirror and of the exterior mirrors.

The paragraph beginning on page 3, line 10 has been amended as follows:

A particular advantageous embodiment provides for the heating resistor to be disposed in [meander] a serpentine shape on the carrier material, preferably a plastics foil. On the same plastics foil there can moreover be disposed a [meander-shaped] serpentine shaped mirror glass heating system produced in the same way, it being possible to dispose the [meander] serpentine

structures of the two resistors compactly beside one another or interlocking with one another. In order to constantly guarantee a condensation-free mirror, this foil can be provided on both sides with double-sided adhesive tape and be glued on one side to the rear side of the mirror on the other to a glass support plate. As well as very good heat conduction towards the mirror to be heated, this moreover makes possible low-cost attachment of the mirror glass to the glass support plate.

The paragraph beginning on page 3, line 21 has been amended as follows:

A further advantageous embodiment of the present invention provides for the control device to have a unit for pulse-width modulation of a control signal with a signal level, [preferable] preferably at the level of the vehicle voltage and the unit for the pulse-width modulation to be connected to a converter , belonging to the control device, for converting the pulse-width modulated signal into an analog control voltage. It is particularly advantageous when the signal level is at the level of the vehicle voltage, to convey a signal generated from a signal generation unit located in the housing of the interior mirror to the exterior mirrors. In this case, the converter according to the invention is located in the region of the exterior mirror; the dissipation occurring in the mirror during the [conversation] conversion of the pulse-modulated signal at the level of the vehicle voltage into an analog control voltage of a lower level which is converted again in a heating resistor according to the invention. In so doing, the separate [earth] ground wire between interior mirror and exterior mirror, usual in rear vision systems according to the state of the art, is necessary in order to balance the potential differences between the interior and exterior mirrors of the vehicle. This stems from the fact that, when a voltage is supplied from the interior mirror to the exterior mirrors at the level of the vehicle voltage, the potential differences are of considerably less significance than with direct transmission of the low control voltage (e.g. a maximum of 1.2V).

The paragraph beginning on page 4, line 26 has been amended as follows:

Fig. 1 show a dissipating resistor 3 according to the invention, which in the following is called a heating resistor and which is embodied in a [meander] serpentine shape and disposed on the non-reflective rear side 2a of an electrochromic mirror 2 of a rearview mirror unit. The application of the heating resistor to the rear side of the mirror 2a can come about by means of metal coating in a plasma process, screen printing using resistor paste (the resistor paste is applied in the form of the desired heating element) or galvanic coating. The heating resistor 3 (i.e. the coating) can be of copper, silver or aluminum. In each case, the heating resistor is configured in flat lines. A heating resistor voltage is released between the electrical connections 3a and 3b that represent the beginning and end of the heating resistor 3.

The paragraph beginning on page 5, line 7 has been amended as follows:

Likewise, a mirror glass heating system 6 is attached to the rear side 2a of the electrochromic mirror 2, which system in addition heats the mirror 2. This can also be disposed in [meander] a serpentine shape as it proves particularly advantageous if, as shown in Fig. 1, the course of the mirror glass heating system 6 is designed complementary to the course of the heating resistor 3. It is not absolutely necessary to dispose the heating resistor 3 directly on the electrochromic mirror 2. There is admittedly an advantageous heating effect here that helps to prevent icing or clouding over of the mirror surface, but other arrangements are also possible. Thus, for example, provision can be made for the heating resistor 3 to be applied to foil printed circuits ("flex" or "FPC" supply lines). These supply lines can for example provide the electrical connection between the control device and the electrochromic mirror or also connect individual elements of the control device to one another (see [in this connection also] Fig. 3).

The paragraph beginning on Page 5, line 20 has been amended as follows:

Fig. 2 shows the cross-section of an exterior mirror 5 according to the invention [or an exterior mirror unit 5]. [This] The exterior mirror 5 has an electrochromic mirror 2 that is electrically connected, in a manner that is not shown in detail, with a control device. This control device or parts of the control device (see Fig. 3) can be accommodated within the housing 9 of the exterior mirror unit 5 (in Fig. 2 only the heating resistor 3 belonging to the control device and lying inside the housing 9 is shown).

The paragraph beginning on page 7, line 1 has been amended as follows:

Fig. 3 shows the diagrammatic construction of the whole vehicle rear vision system 1. This [contains] includes two rearview units, an interior mirror unit 4 as well as an exterior mirror unit 5. A vehicle power supply device, not shown in detail, provides a dcvoltage of a nominal 12V. The vehicle voltage can however be between 5V and 24V, depending on the automotive vehicle. The vehicle power supply device is connected to the control unit in order to supply it with power. The exterior mirror unit 5 has one or two electrochromic mirrors, (respectively one on each side of the vehicle), the interior mirror unit has one electrochromic vehicle mirror.

The paragraph beginning on page 7, line 19 has been amended as follows:

This analog control signal is then supplied to a transistor (see input 17a of transistor Q in Figs. 4a and 4b). The circuit shown in Figs. 4a and 4b, which will be described in detail later, makes available to the electrochromic mirror 2 a dcvoltage 22 varying between 0V and 1.5V according to the amount of glare. In dependence on this voltage, the refection properties of the electrochromic mirror 2 alter in known fashion. The analog voltage 21 is approximately between

0V and 1.5V. It can however, according to the embodiment, cover higher voltage regions, e.g. from 0V-2.5V.

The paragraph beginning on page 9, line 10 has been amended as follows:

It is naturally possible to use just one of the systems presented for signal transmission. For this, in the case of digital transmission by means of data bus, ([preferable] preferably a UART or CAN protocol is used) e.g. a digital-analog converter is necessary for converting the data bus signal into an analog control voltage.

The paragraph beginning on page 9, line 28 has been amended as follows:

Fig. 4b shows a further embodiment of a circuit arrangement according to the invention. Between points 23 and 24 there is a voltage of approximately 12V (the level of the vehicle voltage). In this embodiment, the transistor Q, which is actuated by a control signal 17a, the heating resistor 3 and the electrochromic mirror 2 are connected in series. As in the arrangement shown in Fig. 4a, the heating resistor is disposed flat (e.g. in a spiral or [meander] serpentine shape).

IN THE CLAIMS:

Claims 23-44 have been cancelled from the application and new claims 45-68 have been added.